REMARKS

Applicant respectfully requests consideration of the subject application as amended herein. This Amendment is submitted in response to the Final Office Action mailed on December 10, 2008. Claims 1, 4-6, 8, 9, 15, 17, 18, 21, 25-27, 29, 30, 36 and 44-54 are rejected. In this Amendment, claims 1, 5, 17, 18, 21, 26, 44, 45, 48 and 51-54 have been amended. New claims 55 and 56 have been added. No claims have been canceled. Therefore, claims 1, 4-6, 8, 9, 15, 17, 18, 21, 25-27, 29, 30, 36 and 44-54 are presented for examination.

Rejections Under 35 U.S.C. § 103

Claims 1, 4-5, 15, 46-50 and 53-54

Claims 1, 4-5, 15, 44, 46-50 and 53-54 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Guillermo Rudolfo Chacon (U.S. Patent No. 6,128,588, hereinafter "Chacon") in view of Floyd et al., (U.S. Publication No. 2002/0105355, hereinafter "Floyd"). Claims 17-18, 21, 25-26, 36, 45 and 51-52 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chacon in view of Floyd as applied to claims 1, 4-5, 15, 21, 25-26 36, 44, 46-50 and 53-54 above, in view of Martorana et al. (U.S. Publication No. 2003/0236628, hereinafter "Martorana").

The Examiner has noted that Chacon fails to teach, "an attribute whose value is outputted by the class of equipment identified by the first field of that record," "storing in a second database table that is a child table of the first database table a plurality of subordinate data records ...," or "define communications interface specifications that enable a diagnostic apparatus to retrieve distinct attribute information from distinct classes of equipment." However, Examiner cites Floyd as teaching these limitations. Examiner has also recognized

that both Chacon and Floyd fail to teach a field specifying a conversion parameter that defines a conversion of the value of the attribute identified in another field into physical units of measurement. However, Examiner cites Martorana as teaching such a limitation.

As Applicant argued in the previous response, Martorana fails to show, teach or suggest a table having a field specifying a conversion parameter that defines a conversion of the value of the attribute identified in another field into physical units of measurement. Specifically, Martorana teaches a navigation system for a drilling rig. The navigation system detects an angle and direction of the drilling rig using an accelerometer, a gyroscope and a magnetometer. However, the navigation system does not include a table having a field that specifies conversion parameters for attributes of such sensors. (Martorana, par. [0032]). The navigation system is maintained at a constant temperature using a temperature control system. However, the temperature control system also does not include a table having a field that specifies a conversion parameter for any attributes. (see Martorana, pars. [0029], [0030]).

Despite the shortcomings of the cited art, in the interest in advancing prosecution of this case, Applicant has further amended claim 1 to add additional limitations that are also not taught by Chacon, Floyd or Martorana.

Applicant has amended claim 1 to recite:

> A method of storing information in a database to characterize attributes outputted by different classes of equipment, comprising:
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> storing in a first database table of a database memory device a plurality of attribute data records, wherein storing each attribute data record includes:
>
> storing in that record a first field identifying a class of equipment to which remaining fields in the record pertain;
>
> storing in that record a second field identifying an attribute whose value is outputted by the class of equipment identified by the first field of that record, wherein said attribute is a sensor measurement or operating parameter of said class of equipment identified by said first field;
>
> storing in that record a third field specifying an ID which the class of equipment identified by the first field of that record assigns to the attribute

identified by the second field of that record;

storing in that record a fourth field specifying conversion parameters that define a conversion of the value of the attribute identified in the second field into physical units of measurement;

storing in a second database table that is a child table of the first database table a plurality of subordinate data records, wherein storing each subordinate data record includes:

storing in the subordinate data record subordinate fields that are subordinate to the fourth field of an attribute data record, the subordinate fields including a min subordinate field that identifies a minimum physical value that can be output for the attribute, a max subordinate field that identifies a maximum physical value that can be output for the attribute, and a units subordinate field that identifies physical units in which physical values output for the attribute are expressed; and

using the first field, second field, third field, fourth field and subordinate fields of an attribute data record, which in combination define a communications interface specification, by a diagnostic apparatus to retrieve distinct attribute information from a distinct class of equipment.

(emphasis added).

Applicant has similarly amended claims 17, 21 and 45 to include "a min subordinate field that identifies a minimum physical value that can be output for the attribute, a max subordinate field that identifies a maximum physical value that can be output for the attribute, and a units subordinate field that identifies physical units in which physical values output for the attribute are expressed."

As discussed above, none of Chacon, Floyd or Martorana, alone or in combination, show, teach or suggest a field specifying conversion parameters that define a conversion of the value of the attribute identified in the second field into physical units of measurement. Nor do these references show, teach or suggest a second database table that is a child of the first database table, that includes a subordinate data record having subordinate attributes that are subordinate to the field specifying the conversion parameters. Furthermore, none of the cited references teach specific subordinate fields to a field specifying conversion parameters, much less a min subordinate field that identifies a minimum physical value that can be output

for the attribute, a max subordinate field that identifies a maximum physical value that can be output for the attribute, and a units subordinate field that identifies physical units in which physical values output for the attribute are expressed, as now recited in claims 1, 21 and 45.

For the above reasons, Applicant respectfully submits that the rejections over claims 1, 21, and 45, and their corresponding dependent claims, have been overcome, and requests that the rejections to these claims be withdrawn.

Claims 6 and 8-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chacon in view of Floyd as applied to claims 1, 4-5, 15, 44, 46-50 and 53-54 above, in view of Robert C. Beauchesne (U.S. Patent No. 5,777,876, hereinafter "Beauchesne"). Claims 27 and 29-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chacon in view of Floyd, further in view of Martorana as applied to claims 17-18, 21, 25-26 36, 45, and 51-52 above, further in view of Beauchesne. Beauchesne teaches a database system that includes multiple tables for controlling manufacturing processes. (Beauchesne, abstract). However, Beauchesne fails to show, teach or suggest a field specifying conversion parameters that define a conversion of the value of the attribute identified in the second field into physical units of measurement, much less subfields that are subordinate to such a field. Therefore, Beauchesne fails to show, teach or suggest the features of claims 1, 21 or 45 that are missing from the combination of Chacon, Floyd and Martorana. Accordingly, Applicant respectfully requests that the rejections under 35 U.S.C. § 103(a) be withdrawn.

Claims 44 and 55

Claim 44 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Chacon in view of Floyd. Chacon teaches a scheduler database that stores production models and data for simulation. The scheduler database obtains all data for simulation **from a**

manufacturing execution system entitled PROMIS. (Chacon, col. 3, lines 58-65; col. 14, lines 18-36; col. 16 lines 63-66). The scheduler database does not obtain data from manufacturing equipment, much less manufacturing equipment that has a plurality of physical communications interfaces. Nor does the scheduler database include a field that specifies one of a plurality of physical communications interfaces.

Floyd teaches a controller having a database 400 that includes multiple tables. As the Examiner indicated, in Floyd **all of the test equipment 25 is connected to the controller via a general purpose interface bus** (GPIB). (Floyd, pars. [0076]-[0077]; Fig. 4). The GPIB is **a single physical digital communications interface** that includes multiple different pins (signal lines). However, Floyd fails to teach connecting the controller to manufacturing equipment having multiple physical communications interfaces. Moreover, Floyd also fails to teach or suggest a database table that identifies a particular one of multiple physical communications interfaces from which to receive data, much less a database table that includes a separate record for each communications interface of at least one class of equipment. Therefore, Floyd fails to teach or suggest the limitations of claim 44 that are missing from Chacon. Martorana and Beauchesne also fail to show, teach or suggest the features of claim 44 that are missing from Chacon and Floyd.

Accordingly, Applicant respectfully submits that claim 44 is patentable over any combination of Chacon, Floyd, Martorana and Beauchesne. Newly added claim 55 includes the limitations, "wherein at least one class of equipment is manufacturing equipment having a plurality of physical communications interfaces for outputting attribute data formatted according to a plurality of communications protocols, the plurality of communications protocols including at least a command-driven digital communications protocol, a continuous streaming digital communications protocol and an analog communications protocol," and

"storing in the record a fifth field specifying a communications protocol and a physical communications interface that is used for the attribute identified by the second field of that record, wherein the first database table includes a separate record for each of the plurality of physical communications interfaces of the at least one class of equipment." Accordingly, Applicant also submits that claim 55 overcomes the current rejections for the same reasons that claim 44 overcomes these rejections.

Applicant therefore respectfully requests that the rejections under 35 U.S.C. § 103(a) be withdrawn.

Conclusion

Applicant respectfully requests the withdrawal of the rejections and submits that pending claims 1, 4-6, 8, 9, 15, 17, 18, 21, 25-27, 29, 30, 36 and 44-54 are in condition for allowance. Applicant respectfully requests reconsideration of the application and allowance of the pending claims.

In view of the above remarks, a specific discussion of the dependent claims is considered to be unnecessary. Therefore, Applicants' silence regarding any dependent claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.

If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact Benjamin Kimes at (408) 720-8300.

Deposit Account Authorization

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

Respectfully submitted,

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